

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>104060 a/ubr</b>	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. <b>PCT/EP2004/007940</b>	International filing date (day/month/year) <b>16.07.2004</b>	Priority date (day/month/year) <b>17.07.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>C04B22/14, C04B28/02, C01G49/14, C01B17/90, C01G23/053</b>		
Applicant <b>KERR-MCGEE PIGMENTS GMBH</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of **8** sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of **5** sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2), with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☒ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☒ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/007940

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
    - ☐ international search (Rule 12.3 and 23.1(b))
    - ☐ publication of the international application (Rule 12.4)
    - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
  - ☐ the international application as originally filed/furnished
  - ☒ the description:
    - pages 1-29 \_\_\_\_\_ as originally filed/furnished
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☒ the claims:
    - nos. \_\_\_\_\_ as originally filed/furnished
    - nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
    - nos.\* 1-25 \_\_\_\_\_ received by this Authority on 17.10.2005 with letter of 17.10.2005
    - nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☐ the drawings:
    - sheets \_\_\_\_\_ as originally filed/furnished
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
    - sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
  - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
  - ☐ the description, pages \_\_\_\_\_
  - ☒ the claims, nos. 26-45 \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (*specify*): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - ☐ the description, pages \_\_\_\_\_
  - ☐ the claims, nos. \_\_\_\_\_
  - ☐ the drawings, sheets/figs \_\_\_\_\_
  - ☐ the sequence listing (*specify*): \_\_\_\_\_
  - ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/007940

**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-25	YES
	Claims		NO
Inventive step (IS)	Claims	1-25	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-25	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

## 1. Reference is made to the following documents:

Documents D11 to D13 were not cited in the international search report. Copies of these documents are enclosed.

D11: JP2001220193 (TAIHEIYO CEMENT CORP.) 14 October 2001

D12: DE29915326U (ABC-Angersdorfer Bauchemie GmbH) 17 August 2000

D13: EP1559694 (KRONOS Int. Inc.) 3 August 2005.

2. Document D12 is considered the prior art closest to the subject matter of claim 1. It discloses (the references between parentheses relate to D12):

a mixture of iron (II) sulfate and tin (II) sulfate for the reduction of the chromate content in cement.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/007940

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

The subject matter of claim 1 and the correlating claims 15 and 17 differs from document D12 in that instead of tin (II) sulfate an iron (II) sulfate precipitate is added to the green salt, the precipitate being obtained after reconcentration of used sulfuric acid ( $\text{FeSO}_4$  monohydrate, so-called filter salt) containing iron (II) sulfate. The subject matter of independent claims 1, 15 and 17 is therefore novel (PCT Article 33(2)).

Document D11 is considered the prior art closest to the subject matter of independent claim 16. It discloses (the references between parentheses relate to D11):

the use of iron(II) sulfate monohydrate for reducing the chromate content in cement.

The subject matter of claim 16 and independent claims 23 and 24 correlated therewith therefore differs from document D1 in that the iron (II) sulfate monohydrate is not characterized by an increased content in secondary components such as titanium and/or manganese, or the crystallite size of these. The subject matter of independent claims 16, 23 and 24 is therefore likewise novel (PCT Article 33(2)).

The problem to be solved by the present invention can in both cases be considered that of increasing the storage stability of the chromate reducer.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/007940

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
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The solution to this problem, as proposed in claims 1 and 16 of the present application, involves an inventive step (PCT Article 33(3)), for the following reasons:

The applicant's arguments put forward in the letter of 17 October 2005 convincingly demonstrated that owing to the content of co-precipitated titanium hydroxide or titanium oxyhydroxide and manganese hydroxide passivating shells develop around the reducing agent, which delay the oxidation of said agent and hence increase the long-term stability of the chromate reducer.

Claims 2 to 14, 18 to 22 and 25 are dependent on claims 1, 16, and 17, and 23 and 24 and therefore likewise meet the PCT requirements for novelty and inventive step.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/007940

## Box No. VI Certain documents cited

## 1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
EP 1559694	03.08.2005	26.01.2005	27.01.2005
			16.04.2004

## 2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
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## Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The application does not meet the requirements of PCT Article 6 because claims 1 to 25 are not clear.

- examples 1 to 8 described on pages 18 to 24 are not encompassed by the present claims. This inconsistency between the claims and the description leads to doubt as to the subject matter for which protection is sought, and hence the claims are not clear (PCT Article 6).
- Claim 21 does not satisfy the requirements of PCT Article 6 because the subject matter for which protection is sought is not defined clearly. The claim attempts to define the subject matter in terms of the result to be achieved (changes in the reducing action over time); however, in so doing it merely states the problem to be solved, without specifying the technical features necessary to achieve this result.
- The statement on page 17, lines 11 to 14, of the description, creates the impression that the subject matter for which protection is sought does not correspond to that defined in the claims. This leads to lack of clarity (PCT Article 6) when the description is used to interpret the claims.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/007940

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box I:

**Basis of the report**

The amended set of claims, submitted with the letter of 17 October 2005, meets the requirements of PCT Article 34(2)(b), and is therefore the basis of the present report.